

# NUCLEAR DIVISION NEWS

UNION  
CARBIDE

A Newspaper for Employees of the Nuclear Division, Union Carbide Corporation

Vol. 1 — No. 21

OAK RIDGE, TENNESSEE

Thursday, November 19, 1970

## The Computer In Our Future

By Glenn T. Seaborg

With the advent of microelectronics, the impact of computers on our society has intensified. Some engineers have even predicted that people may eventually carry pocket size computers much as we do transistor radios today.



Dr. Seaborg

It is estimated that by 1985 sophisticated "minicomputers" may sell for less than \$2,000. The low price could lead to household units to help with family budgets, taxes, schoolwork, and banking. Then if you are involved in a mix-up about a bill or charge account, you could have the company computer correspond directly with your computer until the problem is solved.

### Smarter Than Man?

The greatest change expected is an increase in computer intelligence. Most experts agree that in the future advanced computers will be able to "think," regardless of how we define the word. The Hudson Institute suggests that computers will "surpass man's intellectual ability including perhaps some of his aesthetic and creative capacities."

It may be difficult for many people to accept a smart computer. Arthur C. Clarke compares our reluctance to admit that machines can become smarter than man to the ballad of John Henry, who died to prove that a machine couldn't be stronger than man. The comparison is a valid one: When we have machines with super I.Q.s, the mental abilities of man may be as unmarketable as his muscle power is today.

### Who's in Charge?

Although some computers are in the distinct future, few experts discount the possibility of super-intelligent machines — possibly even as all knowing as HAL, the computer in "2001: A Space Odyssey." HAL, you will recall, was in charge of the entire voyage, from navigation to preparation of meals, and he still found time to answer questions from reporters back on earth. When HAL got too uppity, an astronaut frantically turned him off. That should reassure everyone hesitant about advanced computers. We don't have to go down before our superintendents, as John Henry did, as long as we keep our fingers on the switch.

## ASME Talk Tonight

Oak Ridge National Laboratory's W. A. Thomas will speak to the Oak Ridge Section of the American Society of Mechanical Engineers tonight, November 19.

Thomas, with the NSF Environmental Study Program, will speak on "Indicators of Environmental Quality."

The meeting is set at the Elks Club, Oak Ridge, beginning with a social hour at 7 p.m.



**BRIEFING AT ORGDP**—Among the places visited in Oak Ridge by Caspar W. Weinberger, deputy director of the Office of Management and Budget, was the Oak Ridge Gaseous Diffusion Plant. From left are: S. R. Sapirie, Clarence E. Larson, Roger F. Hibbs, Glenn T. Seaborg, Weinberger, Donald B. Rice, Jr., and Kenneth Sommerfeld, Superintendent of the Operation Division, ORGDP (back to camera).

## Management, Budget Official Visits Here on Orientation Trip

The deputy director of the Federal Office of Management and Budget visited the Union Carbide-operated facilities in Oak Ridge recently as part of a program to become familiar with operations of the Atomic Energy Commission.

Caspar Weinberger, the nation's second highest budget official, was accompanied on his orientation visit to Oak Ridge by Glenn T. Seaborg, Chairman of the U. S. Atomic Energy Commission; Commissioner Clarence E. Larson; John Abbaddessa, AEC controller; and Donald B. Rice, Jr., as-

sistant director of the Office of Management and Budget.

Among those briefing Weinberger were Roger F. Hibbs, President of the Nuclear Division, and S. R. Sapirie, Manager, Oak Ridge Operations, U. S. Atomic Energy Commission.

Weinberger is the chief assistant to George P. Schultz, director of the budget agency.

While in Oak Ridge, Weinberger was briefed on various activities and visited the three Oak Ridge facilities operated by Union Carbide for the U. S. Atomic Energy Commission.

## 262,500 Pounds

## October Shipments Of Uranium Totals

The Oak Ridge Gaseous Diffusion Plant shipped approximately 262,500 pounds of enriched uranium during October for use in nuclear reactors.

The uranium, which was enriched at a charge of more than \$12 million, filled orders authorized under two Atomic Energy Commission programs — Toll Enrichment and "Lease and Sale."

Under the Toll Enrichment Program, approximately \$9.5 million worth of separative work was performed for customers in Japan, Switzerland and West Germany, as well as in the States of Illinois and Massachusetts.

Customers are charged for the services required to separate from natural uranium the desired percentage of the uranium-235 isotope, which is the fissionable material used in nuclear reactors.

Under the "Lease and Sale" program, reactors in Switzerland, and the States of Maine and Vermont received government-owned uranium valued at approximately \$2.5 million.

## Ecology Subject Of Auerbach Talk

"What is this Thing Called Ecology and why is it so important in the Seventies" is the subject of the Health Physics Society meeting today. The East Tennessee Chapter of HPS meets tonight (November 19) at the Oak Ridge Country Club. S. I. Auerbach, director of the Ecological Sciences Division at Oak Ridge National Laboratory, is the guest speaker. Herman M. Roth, director of the Laboratory and University Division, Atomic Energy Commission, will serve



Auerbach

(Continued on Page 6)

## You're Invited!

All Nuclear Division employees are invited to participate this weekend in the special activities at the Oak Ridge Civic Center, particularly the dedication ceremony at 10 Saturday morning. Articles on page 2 summarize the features of the new Center.

## Available at Cost

## Special Christmas Jewel Sale Slated for Carbide Employees

A special pre-Christmas sale of Quintessa fine jewelry will be held December 4 and 5 for Union Carbide employees in Oak Ridge. During the two-day period, employees will have an opportunity to purchase the jewelry at approximately 25 percent of the retail price.

The Quintessa collection includes pieces containing natural emeralds, diamonds and other gemstones, as well as the Linde-created emerald. Available for sale will be women's jewelry — ranging from traditional styles to high fashion — at manufacturers' cost. Prices for this fine jewelry range from \$15 to \$1,000, with a large number of items priced below \$100.

The two-day sale will be held December 4 and 5 in the Ridge Room of the Holiday Inn, Oak Ridge. Employee identification by film badges will be required in order to purchase the jewelry.

On Friday, December 4, the sale hours will be from 2 to 9 p.m., while purchase hours on Saturday, December 5, will be from 9 a.m. to 4 p.m.

This is the once in a lifetime opportunity for employees to purchase these fine gems, which are set in 14 kt. and 18 kt. gold jewelry, at manufacturers' cost. On sale will be ladies' rings, pins, bracelets, pendants and earrings.

The special sale is being staged as part of the observance of the 30th anniversary of the Jewelry Products Department.

Employees will be asked to pay for their purchase either by check or with cash. All sales are final. Ring sizing will be the responsibility of the purchaser.

Between now and the start of the two-day sale, sample pieces from the Quintessa collection will be on display in the cafeterias at the three Oak Ridge facilities.

## Carbide UF Drive Complete; All Main Groups Set Record

Union Carbide's Nuclear Division has raised a spectacular all-county total of \$322,896 in the 1970 United Fund drive — \$40,000 more than in 1969, itself a record year.

Carbide general chairman W. H. Hildebrand praised the "truly outstanding and dedicated efforts" of the 500 volunteer employees who engineered the drive among Carbide's 14,300 Oak Ridge employees.

This year Carbide not only raised more money, but also completed its drive within a month. To take full advantage of advance national and local publicity, Carbide drive leaders started their drive on Oct. 8. Last year the drive began Oct. 1, and ended near Thanksgiving.

### Drive Leaders Praised

Hildebrand and assistant chairman M. H. Randolph attributed the record success to key drive leaders throughout the Nuclear Division and a "growing general awareness that the United Fund helps us all."

Each Carbide division did significantly better this year than in

1969. Employees at Oak Ridge Gaseous Diffusion Plant, the pacesetter as the first plant to complete its drive, contributed \$46,365 — or more than \$4,000 over their goal.

The Y-12 Plant employees, continuing their tradition of generous giving, had the most spectacular overall success by giving \$136,553 — more than \$26,000 over the plant's \$110,000 goal.

And General Staffers and Oak

(Continued on Page 6)

## Engineers' Society Looks for Advisors

The Oak Ridge Chapter of the Tennessee Society of Professional Engineers is seeking guidance assistants to high schools in this area to help students choose an engineering career wisely. In the past, quite a few students have been over-sold on engineering professions to the point that many of them dropped out on meeting the rigors of a college curriculum. Many have been undersold and missed to the profession as well.

The program is seeking guidance assistance to the 23 high schools of Pickett, Fentress, Cumberland, Morgan, Scott, Campbell, Roane and Anderson Counties. This includes Oak Ridge High School. Graduates of these high schools, in engineering jobs, would be particularly effective as counselors in their own school.

Volunteer advisors could conduct seminars, assembly talks, talks to smaller groups, conferences with individuals, or after-school clubs.

B. B. Klima is coordinating the program for the local chapter of TSPE. He may be reached at extension 3-1148, or at his Oak Ridge telephone 483-9678.

## 214th Dividend

The board of directors of Union Carbide Corporation has declared its 214th consecutive dividend. The amount is fifty cents a share on the outstanding capital stock of the corporation, payable December 1, 1970, to stockholders of record November 6. The last quarterly dividend was fifty cents a share paid September 1.

Payment of this quarterly dividend on December 1 will make a total of \$2 a share paid in 1970 on outstanding shares of the corporation, the same amount paid to that date in 1969.



# New Oak Ridge Civic Center To Open This Weekend

Come on in — the books and the water and everything are just fine!

Yes, Oak Ridge's new and long-awaited Civic Center opens this weekend, with special activities planned both Saturday and Sunday by area clubs and groups to celebrate the occasion.

All Nuclear Division employees and their families are cordially invited to come and see the Center's outstanding library, recreation and meeting facilities for themselves. Tour guides will be available to show you through.

## Hub of Activity

The Center, which is located on Oak Ridge Turnpike near the Municipal Building, will serve as the

hub of leisure-time activity for all Oak Ridgers — pre-schoolers to senior citizens. Library facilities range from the traditional information services to a special area for youngsters; recreation from ping pong to a large indoor swimming pool; and potential meeting areas from small offices to the large Shep Lauter room.

The complex, planned and developed through community response to a common need, belongs to every Oak Ridger. Over the years, recreational and library activities had outgrown existing buildings, and meeting facilities became more and more inadequate. To meet the need, citizens rallied around the NABOR ("New

and Better Oak Ridge") to approve the \$1.8 million bond issue to finance the Center.

## Unique Design

The result is Oak Ridge's new Civic Center — a modern complex which reflects the personality of the Oak Ridge community—"Science City, U.S.A." and the home of some 30,000 active citizens.

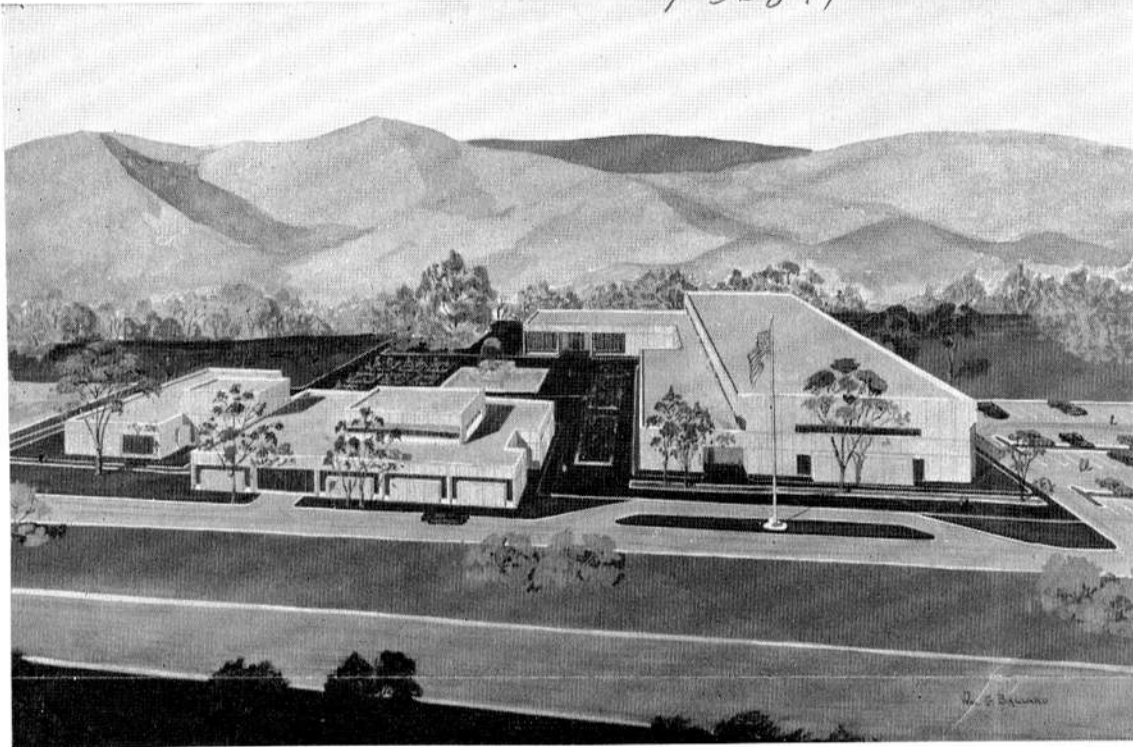
The architect tried to make people and their activities part of the basic architectural concept—people reading, studying, meeting, and enjoying themselves. There was a conscious effort to keep the variety of building materials used to a minimum, blend-

ing materials which are as simple and maintenance-free as possible, yet beautiful.

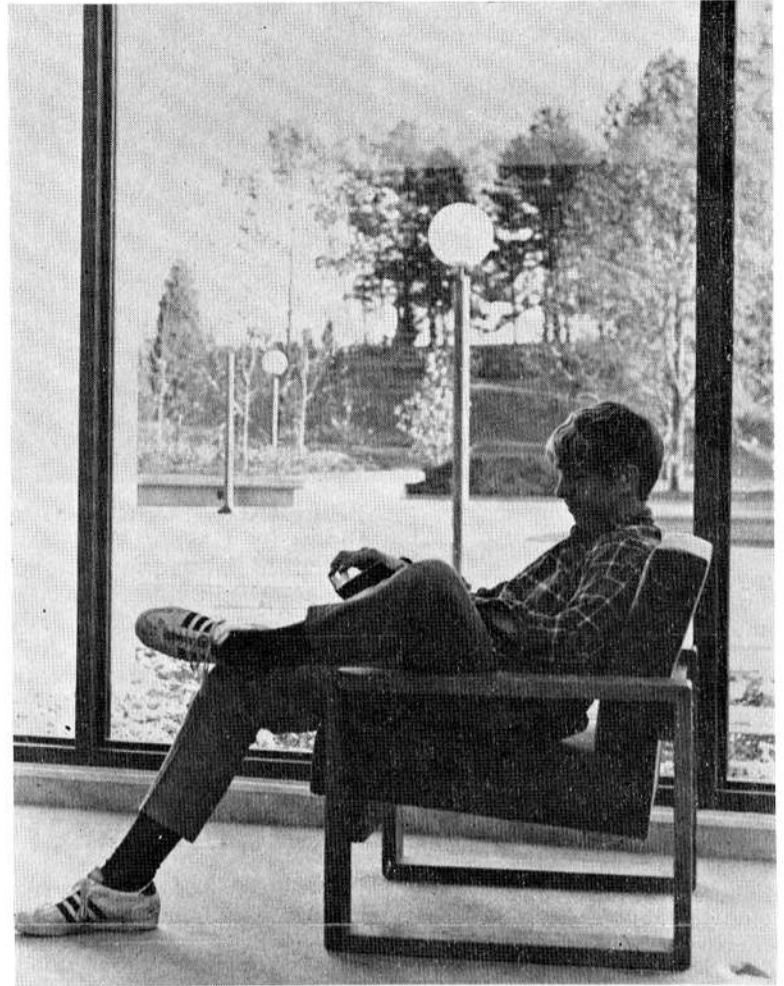
Dark tones of wood, glass, and aluminum play against light-colored concrete, which is used as the basic building material, providing both structural support and the unique textured "wood-grain" finish both inside and out-

doors.

So visit the Center this weekend. There's no substitute for seeing for yourself. And, once you know what's there, you'll be able to plan many opportunities to learn, play, relax, and meet friends. Our Oak Ridge Civic Center truly has something for everyone!



**IMAGINATION** — William E. Ballard, the nephew of Civic Center project superintendent Jack Mayes, was so impressed with the concept of Oak Ridge's new Center that he did a painting of the building. Ballard is an architectural student. "The drawing is a good likeness," Mayes chuckles, "and Bill showed real imagination by adding the mountains in the background where the Municipal Building actually should be."



**LIBRARY SILHOUETTE**—Dave Sipe, one of the volunteers who helped to transfer books from the old library to the Civic Center, relaxes for a moment in the new library. He is silhouetted against a large window which looks out onto the Center plaza.

## A Quick Tour — There's Something for Everyone at the Center

### A. The Plaza

This is the "center" of the Center: Enter any of the other areas from here or just relax outdoors—enjoy the trees, fresh air, flowers, and fountain and get closer to nature in the heart of a city. At night the Plaza can really come alive with activities such as outdoor dances or lecture series.

### B. The Library

Two main entrances, one from the Plaza and another from the parking area, make it easy to reach your favorite books. You'll find an excellent information service, special space for study groups, and a typing room.

In the center of the library is the Reading Court, a beautiful, informal area where you can read and relax in lounge chairs beneath a clerestory that makes you feel as though you were outdoors. The acoustics are such that you may converse with friends without disturbing others.

The Library Auditorium is also something special, designed for activities such as film viewing or puppet or magic shows.

### C. The Children's Library

Prepared specifically to help pre-schoolers and young people up to the sixth grade enjoy books, everything here is as bright and happy as its small patrons. Cushions on the colorful carpet invite youngsters to book-browse, listen during Story Hours, or just dream a while as they gaze at flowers

in the Plaza through the solid glass wall.

### D-G. Recreation Areas

There are three major recreation areas: One mainly for adults, another for young people, and the

Shep Lauter Room for both age groups.

The adult group (D) includes a large meeting room which can be subdivided for smaller groups, a club room for lounging and meet-

ing with friends, a craft room, and a large exhibit area and lounge.

The youth section (E) has a game room for billiards, ping pong, etc., and a special room for meetings of organized youth

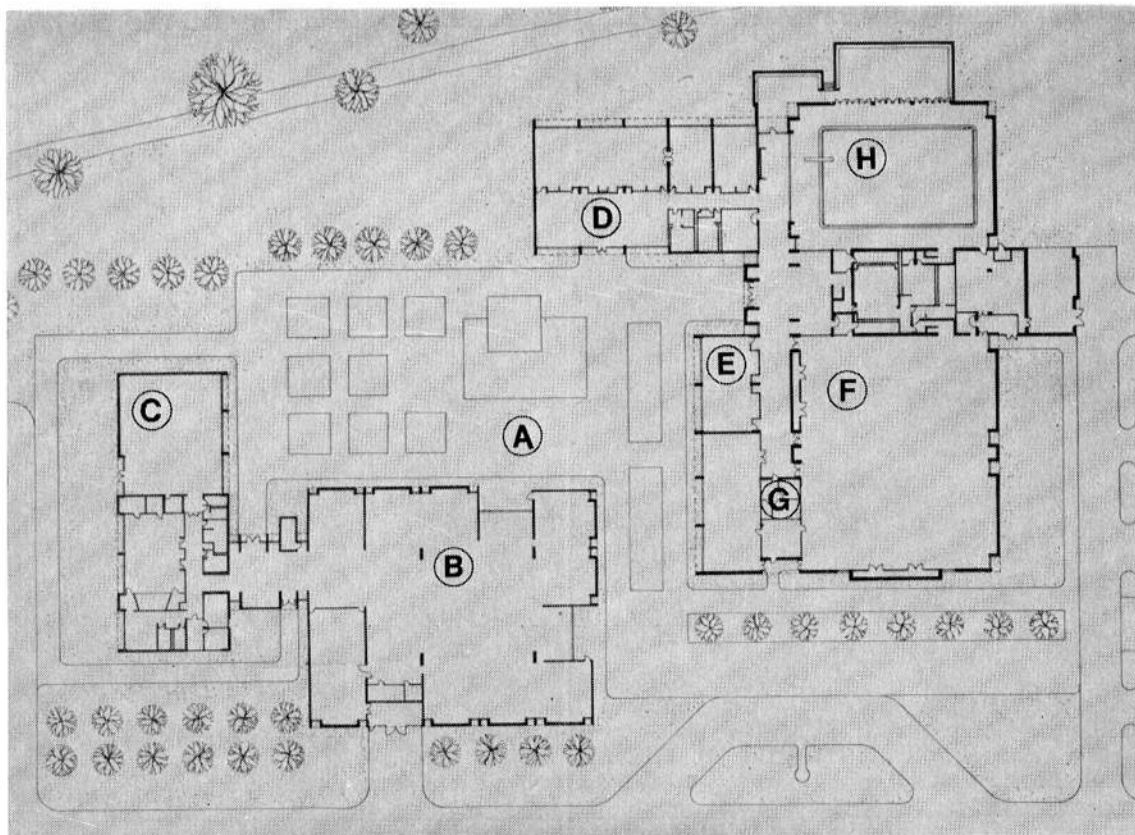
groups.

The Shep Lauter Room (F) is large enough for one senior or two junior basketball games, meetings of up to 1,150 persons, and banquets for up to 750, catered from the adjoining kitchen. A movable stage and pulldown seats add flexibility.

It's easy to find a friend or see what's going on because of the large glass windows which permit you to look from one area to another. The main Recreation Office (G) is easily reached from all sections.

### H. The Pool

You'll find some completely new concepts here. A year-round program is possible because of the design of the pool and its adjoining sun deck. Not only will everybody enjoy the heated pool in cool weather, but many will prefer warmer water for swimming, too.



**CIVIC CENTER PLAZA**—The "center" of activities.

## NEWS

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NUCLEAR DIVISION

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## Development's A. Smith Victim of Auto Accident

An automobile accident on October 31 has claimed the life of another Y-12er, Alfred E. Smith, engineering technologist in Materials Engineering Development.

Mr. Smith came to Y-12 October 18, 1954. A native of Mt. Vernon, Tenn., he was a graduate



A. E. Smith

of the National School of Business, Cleveland, Tenn. He had worked with the Caterpillar Tractor Company, Peoria, Ill., and the Tennessee Valley Authority before coming here. He served in the U.S. Navy from 1945 until 1947.

He lived at 105 Rutgers Ave., Oak Ridge.

Surviving are three daughters, Mrs. Shirley Seymour, Memphis; Katherine Lynn, a student at Tennessee School for the Deaf, Knoxville; and Linda Smith, Clinton; his father, Charles W. Smith, Knoxville; and his mother, Mrs. Creola Stewart, Etowah. Two brothers also survive, Franklin Smith, Los Angeles, Calif., and William C. Smith, who works in Y-12. There are also two sisters, Mrs. Janella Trew, Peoria, Ill., and Mrs. Brenda Clark, Etowah.

Funeral services were held November 2 in Martin Funeral Home with the Rev. R. L. Gentry officiating. Interment was in the Tennessee Valley Memory Garden.

## F. O. Hixon, A-2 Shops, Dies Here, November 12

Franklin O. Hixon, A-2 Shops, 9212, died in Oak Ridge November 12. A native of Pittsburg, Ga., he came here December 16,



F. O. Hixon

1957. A veteran of the U. S. Navy, he worked with the U. S. Pipe and Fay Co. and Atlas Powder Co., Chattanooga, before coming here. The Hixon home is at 134 Bryn Mawr Circle, Oak Ridge. Surviving are his wife Mrs. Dorothy Hixon, daughters, Mrs. Connie Jenkins, Copper Hill; Wanda Hixon, Oak Ridge; sons, Steve Hixon, Oak Ridge; Gary Monday, U. S. Navy; mother, Mrs. Pearl Hixon, Chattanooga; father, Franklin O. Hixon, Sr., Ft. Oglethorpe, Ga.; sisters, Mrs. Mary Oliver, Mrs. Elsie Bell, Chattanooga; Mrs. Sue Deerman, Greenwood, Miss.; brothers, Robert Hixon, Chattanooga; Jack Hixon, Houston, Tex.

Funeral services were held November 14 in Weatherford Chapel, Oak Ridge, with the Rev. Luther Hixon officiating. Burial followed in Oak Ridge Memorial Park.

## 1980 PREDICTION

The Atomic Energy Commission predicts that by 1980 nuclear power plants will be generating 150 million kilowatts of electricity—which would be nearly half of the total national capacity today.

## Y-12ers Set New UF Record

Everything's beautiful for Y-12's 1970 United Fund drive!

Each and every Y-12 group went over 100 percent of goal, with several going well beyond 160 percent. In all, plant employees contributed a record total of \$136,553 — or some \$26,000 over the 1970 goal of \$110,000.

"Thanks and congratulations," says Harwell Smith, speaking on behalf of the plant's co-chairmen and drive leaders. "There was complete cooperation throughout Y-12. We saw many new group records and much individual leadership this year — ranging from examples like the Maintenance Division, which was the first to complete its drive, to the four locals that went over 160 percent of goal. We're very proud of the record of Y-12 employees."

Drive leaders at Y-12 included co-chairmen F. F. Carlinger, B. W. Hensley, G. F. McPherson, and Smith. Mrs. J. L. Riddle served as treasurer.

The four top locals were 623, culinary, with 182 percent of goal; 003, bricklayers, 173 percent; 252, chemical workers, 166 percent; and 480, machinists, 163 percent. The overall union total was a fantastic 150 percent of goal. This was the second straight year that local 623 had led the UF givers.

Division	Chairman	%
Accounting and Budget	J. R. Martin	130
Assembly	L. D. Owens	111
Development	J. M. Schreyer	105
Engineering	J. H. Boyd	115
Fabrication	K. O. Pearson	108
Industrial Relations	T. J. Grause	109
Maintenance	D. D. Stroud	117
Materials and Services	G. D. Ellis	105
Metal Preparation	P. H. Trebilcox	113
Prod. Engr. and Scheduling	E. H. Krieg, Jr.	118
Shift Superintendents	T. C. Wilson	106
Superintendents	K. G. Kahl	131
	R. L. Wesley	
Technical	R. A. Tannert	113
Process Analysis	J. R. Gray	112
Guards, Local 3	G. F. McPherson	113
Bricklayers, Local	D. E. Floyd	172
Boilermakers, Local 33	J. M. Sinclair	138
	D. D. Meskirk, Sr.	
Carpenters, Local 50	F. D. Bradburn	137
Sheetmetal Workers, Local 51	R. E. Hester	125
Insulators, Local 52	A. A. Armour	138
Building Services, Local 166	J. H. Bohannon	139
	W. T. Cole	
	R. C. Hill	
Chemical Workers, Local 252	R. H. McNabb	165
Iron Workers, Local 384	C. G. McQueen	136
Machinists, Local 480	J. A. Lane	162
	R. C. Johnson	
	C. F. Jenkins	
	W. E. Keller	
Teamsters, Local 519	J. V. Welch	113
	G. W. Smith	
	S. T. Burress	
Culinary, Local 623	H. S. McClellan	182
Pipefitters, Local 718	R. H. Norman	131
	C. N. Cagle	
	F. E. Clevenger	
	R. E. Mellon	
Electricians, Local 760	W. P. Mattingly	143
Painters, Local 1805	R. L. Christman	145
Operating Engrs., Local 900	G. R. Beasley	137

## Lost-Time Accident

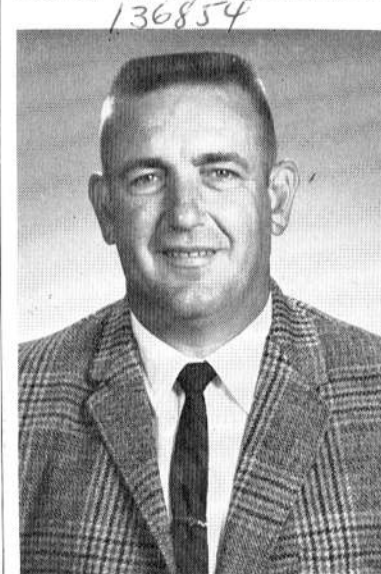
Y-12 suffered another lost-time accident November 4 when an employee in Beta Four Forming slipped on an oil-slick floor. The fall broke the employee's ankle.

The accident broke a string of accident-free days for Y-12 at 43, or approximately 1,898,900 man-hours.

## BICYCLE DEATHS

Each year, 400-500 bike riders are killed in traffic accidents. More than 25,000 children suffer disabling injuries from these accidents. In more than three out of five fatalities, the bicycle rider is violating a law. Bicyclists too often forget traffic laws aren't just for drivers.

## Jolley, Parrott and Randles' Promotion Told in Fabrication, Metal Preparation



Billie E. Jolley

Three additional promotions are announced in Y-12, as Billie E. Jolley is named machining foreman; and Clay Parrott and William W. Randles are named processing foremen in the Metal Preparation Division.

A native of Rockwood, Billie E. Jolley came here May 11, 1957. He worked at the Oak Ridge Gaseous Diffusion Plant from December, 1952 until 1957 as a barrier operator.

He operated a service station in Spring City and worked with the Koehring Southern Manufacturing Company, Chattanooga, before his four-year stint in the U.S. Air Force.

Jolley lives presently at Spring City. Mrs. Jolley is the former Jewell Reed.

## Clay Parrott

Clay Parrott was born at Route 1, Monroe, Tenn. He came here September 3, 1957. He attended Tennessee Technological University from 1948 until 1950, and returned in 1951. He was awarded a B.S. degree in agriculture there in 1953.

A veteran of the U.S. Army, serving from 1946 until 1947, Parrott worked with the Tennessee Department of Education, Byrds-town; and the Carnation Company, Decatur, Ala., and Sparta, Tenn., before coming here.

Mrs. Parrott is the former Shirley Justice and the couple has two daughters, Carla and Linda, and a son, Jeffrey. They live at Route 4, Admiral Road, Concord.

## William W. Randles

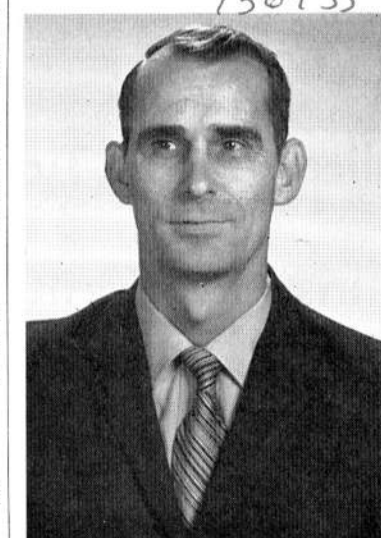
Born in Edgemoor, near Oak Ridge, William W. Randles came here April 10, 1955. He was a carpenter in Sevierville, and worked with the Coleman-Hindley and Johnson Company as a furnace mechanic, before going into the U.S. Army in 1952.

He returned to Coleman-Hindley and Johnson and worked with them until he came here.

The Randles live at Route 20, Wheatland Drive, Knoxville. Mrs. Randles is the former Wanda Parrott. They have two sons, Gary and Wayne; and a daughter, Deborah.



Clay Parrott



William W. Randles

## Roses 'n Thorns Still Hold Mixed Alley Edge

The Roses 'N Thorns stand one-half point ahead of the rest of the pack in the Mixed Bowling League. They recently conquered the Friskies for three, but fell last week victims to the Goofers.

Bill Hackett, R 'n T, rolled a hot 221 scratch game last week ... the Hits & Misses' Joe Beaver clipped off a 658 handicap series! League standings follow:

Team	W	L
Roses 'N Thorns	26	14
Hits & Misses	25½	14½
Goofers	24	16
Rollers	23	17
Twisters	23	17
Friskies	17	23
Alley Cats	11	29
Cougars	10½	29½

## SAFETY SCOREBOARD

The Y-12 Plant Has  
Operated  
**11 Days Or  
975,000 Man Hours**  
(Unofficial Estimate)  
**Through November 15**  
Without A Disabling Injury  
**SAFETY AT HOME,  
AT WORK, AT PLAY**





**GUNMAKER SUPREME**—Harold Fell, Alpha Five East Shop, is co-chairman of this year's Foothills Craft Guild Fall Show, along with Mrs. W. C. Stoddart. Fell specializes in making exact replicas of antique guns and powder horns. He also fabricates dulcimers.

## Traditional Versus Modern Will Vie In 4th Annual Foothills Craft Show

The Fourth Annual Fall Show of the Foothills Craft Guild will

### Mix-Ups Grab Spotlight From Starlite's Keglers

The Mix-Ups mixed up their opponents recently, and stand a scant one-point in the lead in the Starlite Bowling League. They downed the Wildcats and the Splitters in recent competition.

Billy Pointer, Wildcats, posted a 233 scratch game on November 5; and last week J. R. Jones, Mix-Ups, beat him by three pins, rolling a 236! His 609 scratch, 660 handicap series made news, too.

League standings follow:

Team	W	L
Mix-Ups	23	7
Raiders	22	8
Woodpeckers	19	11
Latecomers	19	11
Marauders	17	13
Wildcats	15	15
Comets	15	15
Pin Boys	12	18
Pin Splitters	5	25
Rollers	3	27

be held Saturday and Sunday, November 21 and 22, at the National Guard Armory on the Turnpike in Oak Ridge. Hours for Saturday are from 9 a.m. to 9 p.m. Sunday's hours are from noon to 6 p.m.

This year's theme is "Counterpoint in Crafts," stressing the contrast between traditional and modern crafts. There will be guest artists and musicians each day, as well as the special feature of an exhibit of traditional music instruments owned by John Rice Irwin, founder of the Museum of Appalachia.

Y-12ers who will participate in the show are Harold Fell, show co-chairman and rifle-maker, and the wives of Donald Martin (Jude, toys); John Milloway (Kathy, Christmas ornaments), E. E. Emerson (Betty, weaving), D. W. Hackett (Barbara, enameling), and George Lockhart (Marshall, stitchery).



**Ride wanted from Washburn Circle, Oak Ridge, to Central Portal, straight day.** Bernice Mas-sengill, plant phone 3-5473, home phone Oak Ridge 482-2974.

**Ride wanted from 139 Johnson Road, Oak Ridge, to Central Portal, straight day.** D. G. Blackburn, plant phone 3-5655, home phone Oak Ridge 483-6587.

**Ride wanted from 476 West Outer Drive, Oak Ridge, to North Portal, straight day.** A. L. Donald, plant phone 3-5935, home phone Oak Ridge 483-8537.

**Ride wanted from 300 block, West Outer Drive, Oak Ridge, to Bear Creek Portal, straight day.** M. B. Irving, plant phone 3-7724, home phone Oak Ridge 483-3479.

**One rider wanted from West Hills, Bearden, section via Middlebrook Pike, to North or Central Portal, straight day.** Maxine Garrison, plant phone 3-7253, home phone Knoxville 588-0474.



**CROSS-OVER**—In the last issue of the Y-12 Bulletin Herbert W. Hensley was identified incorrectly. Hensley was recently promoted in Machine Maintenance. The correct picture appears above.



Mid-Autumn finds more Y-12ers marking important dates with Union Carbide Corporation. Congratulations.

### 25 YEARS

**Fred B. Guttery**, Chemical Services, November 19.

**Paul E. Gipson**, Guard Department, November 19.

**Robert H. Freeman**, Electrical and Electronics, November 19.

**John F. Bruce**, Guard Department, November 20.

**Edgar A. Guettner**, Tool Department, November 21.

**Vernon Huddleston**, Beta Two Forming, November 23.

**Marcus B. Potter**, Chemical Services, November 23.

**Leonard H. Guettner**, Stores Department, November 23.

**Walter E. Bruce**, Guard Department, November 26.

**James J. Finley**, Alpha Five Processing, November 26.

**John Cobb, Sr.**, Area Five Maintenance, November 26.

**Clifford Russell**, ORNL Chemical Services, November 28.

**Rufe A. Moore**, ORNL Chemical Services, November 29.

**Harry A. Keen**, Alpha Five Processing, November 29.

**John K. Chance, Jr.**, Reproduction, November 30.

### 20 YEARS

**Herron H. Gresham**, Tool Grinding, November 20.

**James F. Price**, Guard Department, November 20.

**Guy L. Seaton, Sr.**, Special Production Scheduling and Coordinating, November 20.

**Harold E. Cornell**, H-2 and F-Area Shops, November 20.

**Edward T. Creech**, Production Analysis, November 20.

**Okey H. Dunaway**, Dimensional Inspection, November 20.

**J. Lloyd Smith**, Legal Department, November 20.

**Charles E. Harness**, Mechanical Inspection, November 21.

**Woodrow W. Chilcoat**, H-2 and F-Area Shops, November 21.

**Fred G. Childress**, Ceramics and Plastics Development, November 21.

**James L. Gilliam**, General Machine Shop, November 27.

**Mack R. Braden**, Guard Department, November 27.

**Clyde L. Hill**, General Shop Job Liaison, November 27.

**Horace L. Wolfenbarger**, Guard Department, November 27.

**Milton Carlton**, Research Services, November 27.

**Marion D. Story**, Area Five Maintenance, November 27.

**David G. Schultz**, Legal Department, November 27.

**Coy H. Harrell**, Process Maintenance, November 28.

**William A. Newman**, Process Maintenance, November 29.

**Calvin A. Proffitt, Jr.**, Beta Two Forming, November 30.

**George W. Sharp**, 9215 Rolling, November 30.

### 15 YEARS

**Robert E. Douglas**, Electrical and Electronics, November 23.

**Kenneth L. Johnson**, Research Services, November 27.

### 10 YEARS

**Joseph B. Comolander**, General Metal Fabrication Shop, November 1.

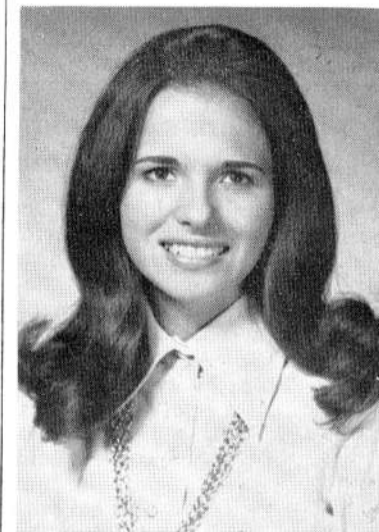
**George R. Bright**, Electrical and Electronics, November 1.

**Billy R. Sparks**, A-2 Shops, 9212, November 6.

**Leslie R. Shular**, Special Production Scheduling and Coordinating, November 7.

**Alvin J. Norris**, Instrument Engineering, November 7.

## Minchey Daughter Is Big Orange Fan



Suzanne Minchey

Big Orange fans in this area enjoy the music of the Pride of the Southland Band at UT. One of the pretty majorettes on The Hill is Suzanne Minchey, daughter of John W. Minchey, General Plant Maintenance.

Suzanne, a graduate of Bearden High School where she was head majorette for two years, is a junior, majoring in elementary education. She is recording secretary for the Kappa Kappa Gamma sorority, and was chosen a Calendar Girl for the PiKA's this year. She is also a member of the Angel Flight. Suzanne was a runner-up in the 1968 Junior Miss contest in Knoxville.

The Minchey's live at 8101 Chesterfield, Knoxville.

## Swingsters Break Classic Tie, Lead by Slim Margin

The Swingsters moved into a one-point lead in the Classic Bowling League, after tying with the Bumpers in the week's previous play. They downed the Smelters for three, while the Bumpers shared two with the Rebels.

Tom Hillard, Markers; H. D. Whitehead, All Stars, posted a 233 game on November 5 . . . on the following week Kyle Johnson, Splinters, did them one better, taking a 244!

League standings follow:

Team	W	L
Swingsters	29	15
Bumpers	28	16
Markers	28	16
All Stars	26½	17½
Rippers	25	19
Eightballs	25	19
Has Beens	24½	19½
Splinters	24½	19½
Rojo's	23	21
Playboys	22	22
Rebels	20	24
Cubs	19	25
Eagles	18	26
Tigers	15	29
Screwballs	14½	29½
Smelters	13	31

## Rounders & Rollmasters Tie In C Division Bowling

The Rounders and Rollmasters eye each other from the top perch of the C Bowling League, as the Rounders moved up with a sweeping win last week over the Purple Pygmies, and the 'Masters beat the Parbusters by only three points.

Powerful bowling by F. A. Roberson, Jaguars, last week saw him with a 256 scratch( 291 single game. The week before that saw L. K. Brooks, Parbusters, beat that score even with a 258, 290 single!

Team	W	L
Rollmasters	25	11
Rounders	25	11
Jaguars	21	15
Fireballs	19	17
Parbusters	18	18
Anodes	18	18
Big Five	16½	19½
Instrument Engineers	16	20
Badgers	16	20
Sunflowers	14½	21½
Purple Pygmies	14	22
Royal Flush	13	23

## Application For Tickets

TO

## Christmas Parties

FOR CHILDREN OF CARBIDE EMPLOYEES

(Ages Two-10 Only)

WEDNESDAY, DECEMBER 23

Employee's Name \_\_\_\_\_ Badge No. \_\_\_\_\_

Home Address \_\_\_\_\_

(PLEASE PRINT — STREET ADDRESS OR R.F.D., CITY)

NUMBER OF TICKETS (Children) \_\_\_\_\_

NUMBER OF TICKETS (Adult) \_\_\_\_\_

— CHECK TIME PREFERRED —

Wednesday, December 23 8:30 A.M. \_\_\_\_\_ 10:30 A.M. \_\_\_\_\_ 12:30 P.M. \_\_\_\_\_

Only 2:30 P.M. \_\_\_\_\_ 4:30 P.M. \_\_\_\_\_ 6:30 P.M. \_\_\_\_\_

Please check first and second choice (write in space "1" or "2") as only a limited number of tickets will be issued for each party. Preference will be given early applicants and if tickets for first choice are exhausted, tickets for second choice will be issued.

Return this form, properly and completely filled in, immediately to the Y-12 Recreation Office, Bldg. 9711-5, NOT LATER than December 18. The required number of tickets will then be mailed to parents at their HOME ADDRESS.



# THE CARBIDE COURIER

Thursday, November 19, 1970

Page 3

## CTC, Fabrication, Maintenance Groups Promote Cross, Phillips and Warrington

K. E. Cross, M. B. Phillips, and E. P. Warrington have recently been promoted. Cross is in the Computing Technology Center, Phillips and Warrington in the Fabrication and Maintenance Division.

### Kenneth E. Cross

Kenneth E. Cross has been promoted to a section head in the Applied Science Department of the Computing Technology Center. He has been with Union Carbide since July, 1964. Cross is a native of Ruffin, N. C. He has a B.S. degree in math from North Carolina State University and a M.S. in management science from UT.

Mrs. Cross is the former Nancy Fisher from Preston, Kan. She has recently returned to work for Oak Ridge National Laboratory at the K-25 Computing Center after having a son, David. Mrs. Cross holds an M.S. degree in nuclear engineering from Carnegie Institute of Technology in Pittsburgh, Pa.

Cross' outside interests include boating, water skiing, autocrossing and rallying with the Sports Car Club. The Crosses reside in the Crestwood Subdivision, Route 4, Kingston.

### Mendle B. Phillips

Mendle Blane Phillips was promoted from maintenance mechanic to planner and estimator in the Methods Engineering Department. He has been employed by Carbide since October, 1952, first as a chemical operator. He was employed at Y-12 from 1961 to 1965 and then came back to K-25.

Phillips was born in Helenwood, Scott County, Tenn., and attended public schools in Huntsville. Before coming here he had worked for General Motors and U.S. Steel and served three years in the U.S. Air Force.

Mrs. Phillips is the former Elsie Keeton from Oneida. They have three children; Charles, in the U. S. Navy; Linda Barton, Arlington, Tex., and Leslie, a student at Robertsville Junior High. The Phillips live at 126 Wainwright Road in Oak Ridge. Phillips' outside interests include fishing and spectator sports.

### Edwin P. Warrington

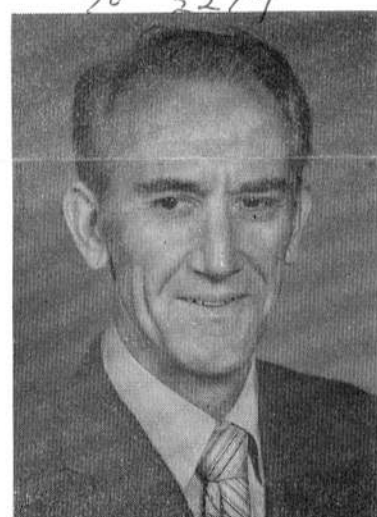
Edwin P. Warrington was also promoted from maintenance mechanic to planner and estimator in the Methods Engineering Department. He has been employed here since May, 1946, after having served four years in the U.S. Air Force.

Warrington was born in Hardin County, Tenn., and attended public schools in Savannah, Tenn. He is married to the former Ernie Lee Corn of Hendersonville, N. C. They have two children at home on Byington Road in the Karns Community; Deborah, 18, and Billy, 15.

Warrington's outside interests include fishing and gardening.



Kenneth E. Cross



Mendle B. Phillips



Edwin P. Warrington

## Women's Bowling

Sue Davis and Peggy Harris were the high scorers in the October 28 session of the K-25 Women's League. Peggy had the best single game with a 199-237 score. Sue had a 546-642 series.

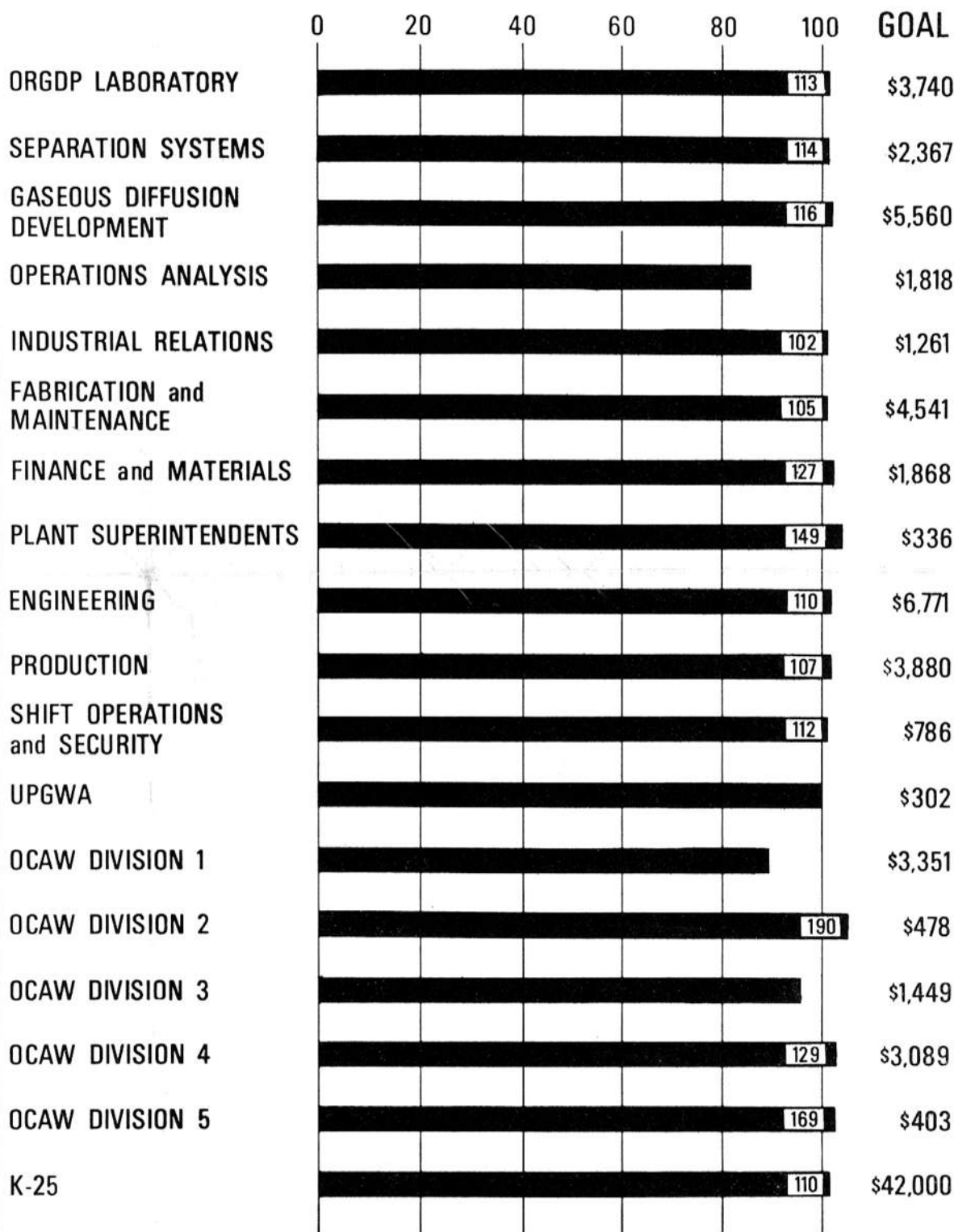
Due to the election, the women did not bowl on Tuesday, November 3.

STANDINGS	
Wood Bees	21 Spotters 11
Pay-Offs	20 Bowlettes 11
Up-Towners	19 Pin-Ups 10½
Hot Shots	14 Hits & Misses 5½

## K-25 UNITED FUND PROGRESS CHART

PERCENT OF GOAL

Period ending October 29, 1970



**FINAL REPORT**—Increased participation and more needed share givers are reflected in the final report of the 1970 United Fund Appeal for K-25. Hourly employees participating jumped from 79 to 85 percent; and 16.2 percent of hourly paid employees signed up for a needed share . . . 180 percent of last year's number. A total of 99.6 percent of salaried employees participated in this year's drive, with 67.8 percent giving their needed share or more!

## Recent ORGDP Technical Papers

L. C. Toomer and Jack H. Ziegler, Systems Technology Department, Computing Technology Division, participated in meetings of the Atomic Energy Systems Operations Programming Association held in Richland, Wash., on October 20-21. Toomer's presentation was a talk entitled "Management of Data Processing Training Cost," and was a part of a panel discus-

sion. Ziegler presented a paper entitled "Remote Job Entry."

L. F. Allard, Jr., Materials Development Department, Gaseous Diffusion Development Division, presented a paper at the annual meeting of the Electron Microscopy Society of America in Houston, Tex., on October 5. The title of his paper was "Electron Micro-

scopy of U-Nb-Zr Alloy." Co-authors of this paper were T. A. Nolan of ORGDP and D. H. Johnson of Y-12.

10 Years' Service

J. C. Hall ..... 11-01-60

THE CARBIDE COURIER

Published Biweekly

Editor ..... H. J. Mayberry  
K-1002 Building, Tel. 3-3097



# These Employees Reach 25 Years Service This Month



## Wednesday

### Bowling League

The Amps were the hot team in the October 28 session of the Wednesday league with a fine 1058 game and a 2985 series. Bill Bullins and Al Krusen split Bowler-of-the-Week honors, Bill had a 217-249 game and Al had a 546-657 series.

Roy Dukes, J. E. Robinson, and Morris Johnson had the best scores in the November 4 session. Dukes rolled a 233 scratch game and Robinson a 257 handicap score. Johnson had a 616-670 series.

#### STANDINGS

Lab Demons	26	Planners	19
Pirates	23	Mix-Ups	15
Amps	21	Rookies	14
Sandbaggers	19	Freezers	7

### Tuesday League

Ed Felte and Dwight Hatch were the top bowlers on November 3. Felte had scratch scores of 204-546 and Hatch had handicap scores of 223-546. The City Slickers took three points from Full House, Double X took three from the Possibles, and the All Stars beat the Atoms three to one.

#### STANDINGS

City Slickers	25	Double X	19
Atoms	20	Possibles	16
All Stars	20	Full House	8

## Foothills Craft Guild Fall Show Set This Weekend at National Guard Armory

The fourth annual Foothills Craft Guild Fall Show will be held at the National Guard Armory on the Turnpike on Saturday, November 21, from 9 a.m. to 9 p.m. and Sunday, November 22, from noon until 6 p.m. The show will feature demonstrations, guest musicians and craftsmen, and 60 guild members selling their tra-



**ART WORK**—James Brewer solders one of the delicate leaded frames for one of his wife's wall pieces. James also makes bolo ties. The Brewers' art work was displayed in the Cafeteria the week of November 9.

ditional and modern crafts.

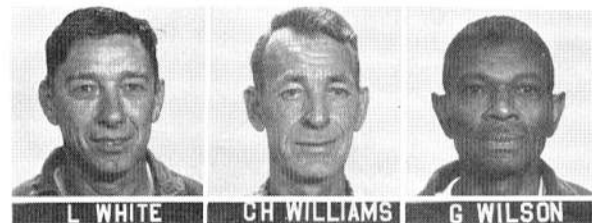
Some of the K-25 employees who are Foothills members are George Kidd, Sam Thompson, and James Brewer. Kidd makes toys and Christmas ornaments; Thompson is a ceramist; and Brewer makes bolo ties. He also assists his wife Jo in making lead and plastic ornaments and decorations.

Doug Goode, wife of member Mary Ann Goode, who does Danish embroidery, is a permanent fixture at the shows, singing and playing the dulcimer.



Ride wanted from Norwood Section of Knoxville to Portal 5, 8:00 to 4:30. Robert Cabe, phone 3-3550, home 687-9243.

Ride wanted or will join carpool from Burlington area to Administration area, 7:45 to 4:15. Florence Olden, 3-3728, home 522-3322.



## K-25 Christmas Dance December 12

Saturday, December 12, is the date for the annual K-25 Christmas Dance. It will be held this year in the new Oak Ridge Civic Auditorium. Festivities will start with a social hour at 8 p.m., followed by dancing to music by "The Classix" starting at 9 a.m.

Admission is only \$3 per person and the auditorium is far larger than any other place in Oak Ridge, so a larger crowd can be comfortably accommodated. Tickets may be obtained from all division secretaries. The ticket sale will close on Monday, December 7, to allow Fabrication and Maintenance employees, the hosts for this year's dance, enough time to have enough food and drinks to serve the crowd. Better get your tickets early and be prepared to enjoy the start of the holiday season in the beautiful new Civic Center Auditorium.

## November Retiree

Charles Arthur McCray will enter retirement status the last of this month. He has been an instrument mechanic in the Isotopic Analysis Department of the Technical Division since February 1946. After serving three years in the Army, McCray took a trip with his family to visit relatives in Texas and then came on to Norris. While visiting here, he applied for a job at K-25 and went to work.

McCray was born in Caldwell, Kan., and graduated from public schools in Parsons, Kan. He has a B.S. degree in education from Kansas State University at Pittsburg, Kan. Mrs. McCray is the former Genevieve B. Sampsel of Lawrence, Kan. She worked here at K-25 in the Engineering and Development Division for approximately 12 years.

McCray has a wide variety of outside interests. He has been playing in an orchestra since he was 12 years old and plays oboe in the Oak Ridge Orchestra. He



Charles A. McCray

bought an organ recently. Both of the McCrays do embroidery painting with ball point tubes on almost any medium. McCray plans to farm at their home on Route 1, Harriman. They will take a trailer trip to southern Texas soon.

## APPLICATION FOR TICKETS

### ANNUAL CHRISTMAS PARTIES FOR CHILDREN OF CARBIDE EMPLOYEES

CHILDREN AGES 2 THROUGH 10  
OAK RIDGE HIGH SCHOOL AUDITORIUM

Wednesday, December 23

(Please Print)

Employee's Name \_\_\_\_\_ Badge No. \_\_\_\_\_  
K-25 Building Number \_\_\_\_\_ Dept. No. \_\_\_\_\_  
Department Name \_\_\_\_\_ Plant Mail Stop No. \_\_\_\_\_

Only a limited number of tickets will be issued for each party. Preference will be given early applicants and if tickets for first choice of party are exhausted, the next choice for which tickets are still available will be issued.

#### INDICATE TIME PREFERRED — NUMBER 1 THROUGH 6

8:30 A.M. \_\_\_\_\_ 10:30 A.M. \_\_\_\_\_ 12:30 P.M. \_\_\_\_\_  
2:30 P.M. \_\_\_\_\_ 4:30 P.M. \_\_\_\_\_ 6:30 P.M. \_\_\_\_\_

NUMBER OF CHILDREN'S TICKETS NEEDED \_\_\_\_\_

NUMBER OF PARENT'S TICKETS NEEDED \_\_\_\_\_

Return this form, PROPERLY FILLED OUT, immediately to the K-25 Recreation Office, Bldg. K-1002. Required number of tickets will be mailed to employees' plant address.

DEADLINE FOR SUBMITTING APPLICATION: FRIDAY, DECEMBER 18

— BE SURE THE APPLICATION IS COMPLETE —

## SAFETY SCOREBOARD

OUR PLANT  
Has Operated  
**975,000 Safe Hours**  
**Through November 12**  
Since last disabling injury on August 31

## 15 Years' Service

B. L. Evans ..... 11-14-55  
N. J. Holt ..... 11-25-55  
W. A. Brickey, Jr. .... 11-28-55  
C. A. Anderson ..... 11-30-55



## Keep 'Human Engine' Tuned Up

By T. A. LINCOLN, M. D.

Mechanics will tell you that it is not good for a modern high compression engine to travel at low speeds or to idle for long periods of time. Deposits of carbon on vital engine parts occur as a result of incomplete combustion of fuel. Although it may be "stretching a metaphor," chronically running the human engine at low speeds may also impair its efficiency.

The 100-yard dash could be compared to a drag or sprint auto race and a 26-mile marathon with a 500-mile endurance race. These two extremes of activity can be used to illustrate what happens to the human engine when run at high speed.

In the dash, the energy is supplied almost entirely from reserves. The immediate source of energy is the breakdown of certain high energy compounds (adenosine triphosphate, creatine phosphate, and glycogen). These



Dr. Lincoln

can be burned without oxygen. When glycogen is burned, lactic acid is formed. When the supply of the former gets too low or the accumulation of the latter gets too high, muscle exhaustion occurs. Thus in sprint races, a well-conditioned athlete can perform at spectacular speeds for short distances. In the longer races, the runner has to depend on a regeneration of his high-energy compounds by supplying oxygen and glucose to his muscles at approximately the same rate as they are used.

### Runner "Revs" Up Motor

Before a race begins, the runner frequently "revs" up his motor. By psychological conditioning, sprint racers can sometimes get their heart rate up to 150 before the gun goes off. Distance runners try to remain calm and conserve their energy for the long pull.

Sometimes the change in distribution of blood to various organs begins before the race starts but always occurs immediately after starting. At rest, the liver and the intestinal tract take about 25-30 percent of the cardiac output, while during exercise they get only 3-5 percent. The kidneys' share drops from 20-25 percent to only 2-3 percent. The proportions going to the muscles and skin at rest are about 15-20 percent and 5 percent respectively, while during exercise together they get 80-85 percent.

Several possible surprises include a decrease to the bones from 3-5 percent to 0.5-1.0 percent and from 15 percent to 4-6 percent to the brain. The heart gets about 4-5 percent during both exercise and rest.

### Brain Gets More Blood

One must remember that these are percentages of the cardiac output and not absolute amounts. The cardiac output can increase from 5 liters/minute at rest to 25 liters/minute during vigorous exercise. Therefore, in terms of absolute minute volume of blood, the brain actually gets more blood during exercise. Can this be why some good ideas are generated during exercise such as swimming or jogging, when concentration on technique is not required? Does it also help explain why vigorous exercise clears the mind or flushes out disturbing thoughts?

When one considers that the absolute circulation of blood to the heart may be five times greater during exercise, he can appreciate the need for use of all available vessels widely dilated. That "wide open" idea is appealing. It would seem logical that opening up all the channels to be sure they retain their flexibility would be a good reason for occasional strenuous activity.

A large muscular man may have a potential of 2,000 capillaries per square millimeter and with each being less than 1 mm. in length, the total length would be 62,000 miles, or enough to reach around the earth  $2\frac{1}{2}$  times! At rest, he may only need 100/sq.mm. of muscle, but during exercise he will require 20 to 30 times more. Each cubic milliliter of blood with its 5,000,000 red blood cells comes in contact with 6,000 square centimeters of capillary surface where oxygen is exchanged for carbon dioxide. Ten times more blood may flow through muscle during exercise than at rest, a truly fantastic



**PLENTY OF POODLES**—Children of Nuclear Division employees have something to look forward to during the coming holidays . . . the big annual Christmas parties. The parties will be held Wednesday, December 23, at 8:30 and 10:30 a.m., and at 12:30, 2:30, 4:30 and 6:30 p.m. at the Oak Ridge High School auditorium. One of the big features will be the Gerard Soules act, seen above.

## Poodles Will Entertain Carbide Kids At Six Big Parties Wednesday, Dec. 23

Wednesday, December 23 is the big day for Nuclear Division children. There will be six big parties staged at the Oak Ridge High School auditorium for the delight of kids and parents alike. They will be at 8:30, 10:30 a.m. and 12:30, 2:30, 4:30 and 6:30 p.m.

Featured this year will be the Gerard Soules trained poodles. Along with Santa, caroling, cartoons, and the usual festive activities, the dogs are sure to win the hearts of every child and adult present.

adaptation in order to supply energy and oxygen for an all-out effort.

In a well-conditioned athlete, the oxygen uptake in muscles can be increased 20 times over the resting level while only increasing the output of the heart by about 6 times. This increase in efficiency is due to the greater distribution of blood to capillaries in muscles and a shift in the oxygen dissociation curve. The hemoglobin in the blood gives up its oxygen easier when it is warmed during exercise and when it contains an increased amount of carbon dioxide.

The body has an amazing ability to respond to the need for a maximum effort. Like an automobile, the human machine must be finely tuned, timed, and conditioned to function properly. Sitting in the garage or only being driven slowly on Sunday afternoons will ruin a high-powered automobile. Likewise, a sedentary life can gradually ruin the human machine.

Blowing out your automobile engine periodically may be logical, but blowing out your arteries by occasional strenuous exercise may be extremely dangerous if you are deconditioned and over 35. However, after an OK following a careful examination, you may be able to gradually increase to a level of activity which will get your machine back in good running condition.

Coupons for the tickets are included in this issue of the Nuclear Division News, in the Y-12 Bulletin and Carbide Courier sections. Please order the tickets from your respective Recreation Departments.

Tickets from Y-12 will be mailed to the employee's home; and from ORGDP to the employee's plant address. Both Recreation Departments have requested that the applications be filled out in full.

Tickets must be requested for adults as well as children. In or-

der to insure the times you desire, an early application is advised. Popular times do run out and fire regulations at the High School allow the seating of a limited number of people.

The ticket application will be repeated in the next issue of the Nuclear Division News.

### SMOKING AND MATCHES

Smoking and matches are the perennial number one cause of fires in buildings in the United States. Some 160,000 building fires, costing \$78 million, occurred each year because people are careless with smoking habits.

## FAMOUS ATOMIC SCIENTISTS

FROM YOUNG RURAL SCHOOL TEACHER IN MONTANA... TO PROTEGE OF WORLD FAMOUS NEILS BOHR IN COPENHAGEN... IN THE SPAN OF A FEW SHORT YEARS

A PIONEER IN THE SEPARATION OF ISOTOPES VIA CHEMISTRY, HE WAS ABLE TO CALCULATE OCEAN TEMPERATURES OF THE GEOLOGIC PAST BY USING AN ISOTOPE OF OXYGEN

1893-

**DR. HAROLD C. UREY**

NEW STUDIES IN PROTEINS WERE MADE POSSIBLE BY HIS HEAVY HYDROGEN DISCOVERY

PROFESSOR CHEMISTRY-AT-LARGE, UNIVERSITY OF CALIFORNIA—WHO FORMERLY TAUGHT AT MONTANA, JOHNS HOPKINS, COLUMBIA, AND UNIVERSITY OF CHICAGO—WON THE NOBLE PRIZE FOR CHEMISTRY IN 1934 FOR DISCOVERY OF DEUTERIUM (HEAVY HYDROGEN). 1942—WENT TO WORK FOR THE ATOMIC BOMB PROJECT AT COLUMBIA UNIVERSITY—UNDER HIS GUIDANCE, A GAS DIFFUSION METHOD WAS DEVELOPED FOR LARGE SCALE SEPARATION OF URANIUM-235. AFTER WORLD WAR II, HE VIGOROUSLY CAMPAIGNED AGAINST MILITARY CONTROL OF ATOMIC ENERGY. URGED INTERNATIONAL COOPERATION IN PEACEFUL USE OF ATOM.



## Lab's Morrow Gives ACS Discussion on Mercury

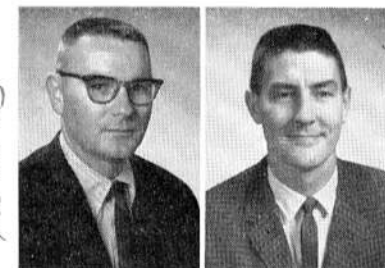
A Y-12 chemist discussed methods of determining mercury levels in water and marine life at a meeting of the East Tennessee Section Analytic Group, American Chemical Society, November 5 at the Chamber of Commerce Building in Oak Ridge.



Morrow

R. W. Morrow, Production Analysis, spoke on "The Determination of Mercury in Water, Sediments and Fish by Atomic Absorption Spectroscopy."

## Cook & Lambdin Speak At Gatlinburg Meeting



Cook

Lambdin

Two Y-12 engineers presented a paper at the Conference on Continuum Aspects of Graphite Design in Gatlinburg, November 9-12. The conference was sponsored by Oak Ridge National Laboratory.

The paper, entitled "Fabrication of Isotopic Carbon-Carbon Composition," was given by J. L. Cook and F. Lambdin, Jr., both of the Development Division. The paper described a technique for making near-isotronic composites from anisotropic, discontinuous, fibers and particulate coal-tar-pitch.

The fabrication method described was developed here in support of various developmental programs conducted for the U. S. Atomic Energy Commission.

## '2 Pails of Water' Next Junior Playhouse Effort

The Junior Playhouse production of "Two Pails of Water" will be presented at the Playhouse on December 5, 6, at 1 and 3 p.m. This Dutch comedy, directed by Mrs. Paul Ebert and assistant director, Barbara Moehl, daughter of W. H. Moehl, includes in the cast Hal King, son of H. G. King; Robert Lay, son of John Lay, Jr.; Karl Thatcher whose father is Ray Thatcher and Connie Hill, daughter of O. F. Hill.

Season memberships for Junior productions are still available at a reduced rate and individual tickets may be purchased at Overton's, Woodland Drugs, Jackson Square Pharmacy, or at the box office one hour before each performance.

## UF Drive Complete

(Continued from Page 1)

Ridge National Laboratory both did better than ever, with General Staff employees contributing \$17,077 and ORNL employees giving \$107,900.

Carbide totals going to individual counties are \$193,722 to Anderson; \$72,198 to Knox; \$11,771 to Loudon; \$5,705 to Morgan; \$34,982 to Roane; and \$4,518 to others.

The Carbide drive is virtually complete now. A few more cards remain to be processed, but will not appreciably change the results.



## AEC Deer Standing By

There are rumors that Rudolph and the eight reindeer that pull Santa's sleigh may get a well-earned rest. The Atomic Energy Commission's Argonne National Laboratory near Chicago has a surplus of white fallow deer available for work on Christmas Eve.

The herd of 200 deer is not part of a research project. Their ancestors were local residents when Argonne was established at its present site more than 20 years ago. The arrival of scientists and engineers did not disturb the deer which stayed and multiplied.

Although the deer remained aloof at first, they were finally won over by offerings of alfalfa and salt. Today, the herd often suns itself along many of the Laboratory's roads.

Like their human neighbors, the deer are not indigenous. Their ancestors were brought to Illinois by the late Erwin Freund, a Chicago businessman who had a summer home on part of the Argonne lands.

For the most part, the deer are content to remain inside Argonne's fence, where there is ample water and natural grass and no hunting is allowed. On rare occasions, they jump the fence and venture into neighbors' gardens.

Healthy and protected, the herd is steadily increasing in number. Ultimately Argonne Universities

Association and the University of Chicago — which operate the Laboratory for the AEC — may face a problem of deer population management along with such "routine" projects as operation of the world's largest superconducting magnet and the liquid metal fast breeder reactor program.

## Auerbach Talk

(Continued from Page 1)  
as moderator.

A social hour begins at 5:30 with dinner at 6:30 and the technical meeting at 7:30 p.m.

Stanley I. Auerbach received his B.S. degree and M.S. degree in zoology, specializing in ecology, from the University of Illinois. His advanced graduate studies in ecology were done at Northwestern where he received his Ph.D. in 1949. He was an instructor and assistant professor of biology until 1954, the year he joined ORNL.

Auerbach was chief of the Radiation Ecology Section of the Health Physics Division at ORNL for 10 years and is now director of the Ecological Sciences Division. He is a Fellow of the American Association for the Advancement of Science and numerous other professional societies, including the Health Physics Society.

The public is invited to the technical session. Reservations are required for dinner.



## UNION CARBIDE CORPORATION

NUCLEAR DIVISION

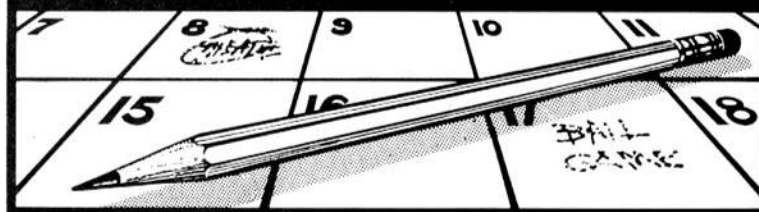
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BULK RATE  
U.S. Postage  
PAID  
Oak Ridge, Tenn.  
Permit No. 71

## CALENDAR OF EVENTS



### TECHNICAL

#### November 19

Oak Ridge Section of American Society of Mechanical Engineering meetings: "Indicators of Environmental Quality," W. A. Thomas, ORNL NSF Environmental Study Programs. Oak Ridge Elks Club, Arkansas Avenue, social hour 7 p.m., program 7:30.

Electronuclear Division Seminar: "Cyclo-Graaff Experiments at Triangle Universities Nuclear Laboratory," Stephen Shafroth, University of North Carolina. Conference Room, Building 6000, ORNL, 10 a.m.

UT Department of Chemical and Metallurgical Engineering Polymer and Rheology Seminar: "Thermal Analysis of Polymers," R. M. Schulken, Tennessee Eastman Corporation. Dougherty Engineering Building, Room 434, UT campus, 1:15 p.m.

#### November 20

Physics Division Seminar: "Ecological Problems Associated with Nuclear Power Reactors," S. I. Auerbach, Ecological Sciences Division, ORNL. East Auditorium, Building 4500N, 3 p.m.

Nuclear Safety Program Seminar: "Stress Corrosion and Crack-

ing in Nuclear Reactor Vessels," Peter Patriarca and D. A. Canonico. East Auditorium, Building 4500N, 9:15 a.m.

#### November 22

UT Department of Chemical and Metallurgical Engineering Polymer and Rheology Seminar: "Flow Instabilities in Polymer Melts in the Capillary Entrance Region," T. F. Ballenger. Room 434, Dougherty Engineering Building UT campus, 1:15 p.m.

#### December 1

Biology Division Seminar: "Experiences in Renal Transplantation," Sharad Deodhar, Department of Pathology, Cleveland Clinic, Ohio. First Floor Tower Annex Conference Room, Building 9207, 12:15 p.m.

#### December 3

Instrumentation and Controls Division Annual Information Meeting, ORNL.

### COMMUNITY

#### November 19

Slide Lecture—Part II, "Trends in 20th Century Painting," German expressionists, Rachel Young, UT Art Center. Admission free.

#### November 19-21

Oak Ridge Community Playhouse presents "Around the World in 80 Days." Matinee November 21, 2 p.m. Evening performances 8:20 p.m.

#### November 21

Tryouts—"Hide and Seek." Oak Ridge Junior Playhouse, 10:30 a.m.

Oak Ridge Civic Music Association presents Sergiu Luca, violinist. Oak Ridge High School, 8:15 p.m. Admission \$4 adults, students \$2.

Art Center Open House (music, dancing, get-acquainted party). Everyone welcome.

#### November 21, 22

Foothills Craft Guild Inc., Fall Show. National Guard Armory, Oak Ridge Turnpike. Saturday 9 a.m. to 9 p.m. Sunday 12 noon to 6 p.m.

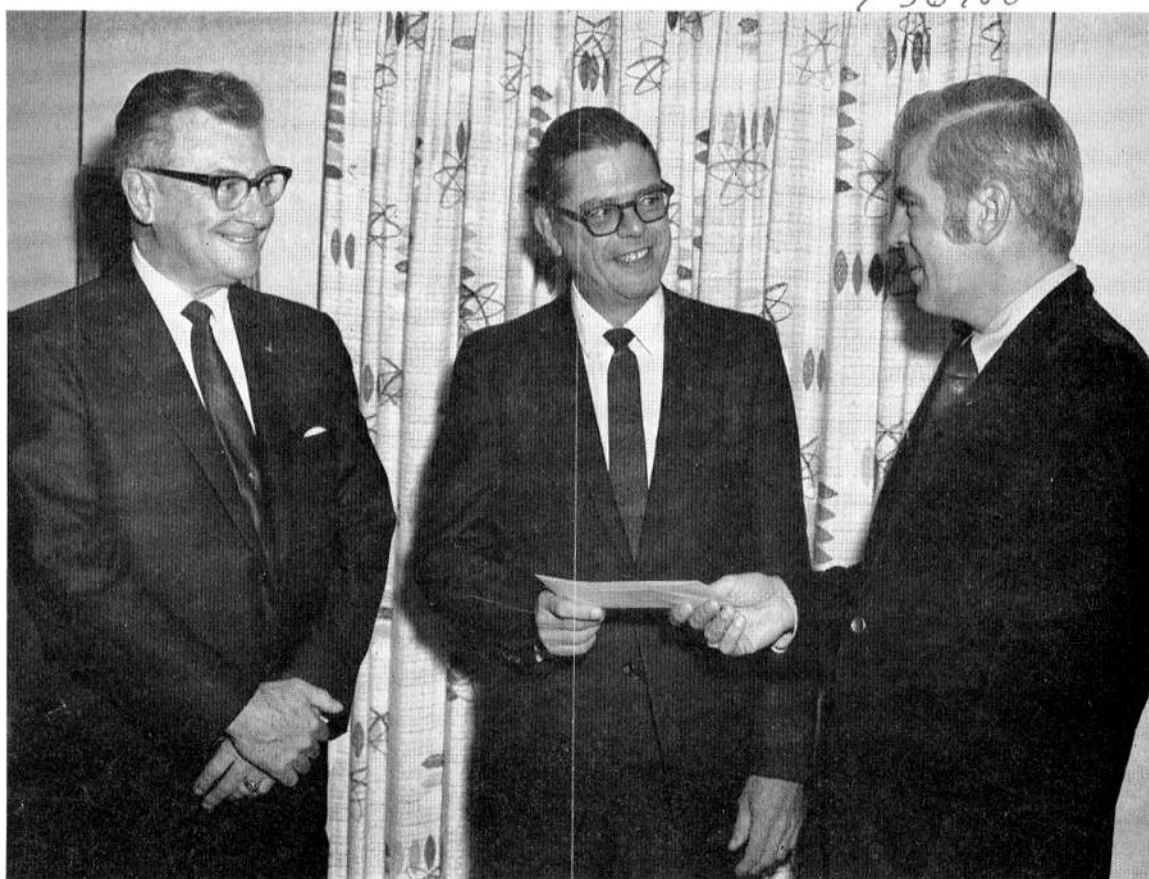
#### November 27-28

Oak Ridge Community Playhouse Special Events Program, "An Evening with Paul Crabtree." Evenings 8:20 p.m., matinees 2 p.m. Admission: Adults \$2.50; students \$1.25 Friday evening and Saturday matinee.

## Indoor Rifleers Started Firing 8-Week Schedule

The Carbide Indoor Rifle League began an eight-week schedule recently.

Marksmen are welcome at the remaining fire-outs. The first relay begins at 7:30 p.m. Tuesday at the Oak Ridge Sportsmen's Association Range. Subsequent relays follow every 45 minutes.



**BIG BOOST**—Union Carbide's Nuclear Division has presented a Corporate gift of \$15,000 to the 1970 Anderson County United Fund drive. Shown here are, from left, W. H. Hildebrand, Carbide's all-plant UF chairman; Roger F. Hibbs, President of the Nuclear Division, presenting the check; and the Rev. Ross J. Schuler, county drive co-chairman.